

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of : Zuhua Zhu, et al.

Serial No. : Div. of 10/106,991

Group Art Unit:

Date Filed : Concurrently Herewith

Examiner:

For : CURRENT CONFINEMENT STRUCTURE FOR VERTICAL
CAVITY SURFACE EMITTING LASER

1185 Avenue of the Americas
New York, N.Y. 10036

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450
Mail Stop- Patent Applications

INFORMATION DISCLOSURE STATEMENT

Sir:

The information listed in the attached form PTO-1449 is brought to the attention of the Examiner.

It is respectfully requested that the information cited in annexed Form PTO-1449 be considered by the Examiner in connection with the above-identified patent application, and that such art be made of record in said application.

The information identified on the attached form PTO-1449, except for U.S. Patent No. 6,465,811, was cited by or submitted to the Patent Office in prior application Serial No. 10/106,991 filed on March 26, 2003 which is relied upon for a filing date under 35 U.S.C. §120.

Therefore, pursuant to 37 C.F.R. §1.98(d) copies of the information identified herein are not required, except that U.S. Patent No. 6,465,811 is submitted herewith.

The filing of this Information Disclosure Statement is not an admission that the information cited herein is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

This Information Disclosure Statement is being filed concurrently with this application.

The Office is hereby authorized to charge any additional fees which may be required for consideration of this Information Disclosure Statement and to credit any overpayment to our Deposit Account No. 03-3125.

Early and favorable consideration of the case is respectfully requested.

Respectfully submitted,



IVAN S. KAVRUKOV
Registration No. 25,161
Attorney for Applicants
Cooper & Dunham LLP
Tel. (212) 278-0400

Form PTO-1449

U.S. Department of Commerce
Patent and Trademark OfficeAtty. Docket No.
0980/64609-ZSerial No.
10/106,991INFORMATION DISCLOSURE CITATION
BY APPLICANT
(Use several sheets if necessary)Applicant
Zuhua Zhu, et al.Filing Date
March 26, 2002Group
2812

U.S. PATENT DOCUMENTS

Examiner Initial		Document Number							Date	Name	Class	Subclass	Filing Date if Appropriate
	AA	5	2	5	6	5	9	6	10/26/93	Ackley et al.			
	AB	5	2	5	8	3	1	6	11/02/93	Ackley et al.			
	AC	5	5	5	7	6	2	7	09/17/96	Schneidner, Jr. et al.			
	AD	5	5	5	9	0	5	3	09/24/96	Choquette et al.			
	AE	5	7	2	4	3	7	6	03/03/98	Kish, Jr. et al.			
	AF	5	8	3	1	2	9	5	11/03/98	Huang et al.			
	AG	5	8	3	7	5	6	1	11/17/98	Kish, Jr. et al.			
	AH	5	9	8	5	6	8	6	11/16/99	Jayaraman			
	AI	6	1	6	0	8	3	0	12/12/00	Kiely et al.			
	AJ	6	1	6	9	7	5	6	01/02/01	Chirovsky et al.			

FOREIGN PATENT DOCUMENTS

		Document Number							Date	Country	Class	Subclass	Translation	
													Yes	No
	AK													
	AL													
	AM													

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	AN	Choquette, "The Technology of Selectively Oxidized Vertical Cavity Lasers," at Chapter 2 of Cheng and Dutta, eds., <i>Vertical-Cavity Surface-Emitting Lasers: Technology and Applications, Vol. 10 of Optoelectronic Properties of Semiconductors and Superlattices</i> , Manasreh, ed., Gordon and Breach Science Publishers (2000).
	AO	Chua, C.L. et. al., "Planar laterally oxidized vertical-cavity lasers for low-threshold high-density top-surface-emitting arrays," IEEE Photonics Technology Letters, Vol. 9, No. 8, pp. 1060-2 (August 1997)
	AP	Deppe, "Optoelectronic Properties of Semiconductors and Superlattices," at Chapter 1 of Cheng and Dutta, eds., <i>Vertical-Cavity Surface-Emitting Lasers: Technology and Applications, Vol. 10 of Optoelectronic Properties of Semiconductors and Superlattices</i> , Manasreh, ed., Gordon and Breach Science Publishers (2000).

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449

U.S. Department of Commerce
Patent and Trademark OfficeAtty. Docket No.
0980/64609Serial No.
10/106,991INFORMATION DISCLOSURE CITATION
BY APPLICANT
(Use several sheets if necessary)Applicant
Zuhua Zhu, et al.Filing Date
March 26, 2002Group
2812

U.S. PATENT DOCUMENTS

Examiner Initial		Document Number							Date	Name	Class	Subclass	Filing Date if Appropriate
	AA	6	4	6	5	8	1	1	10/15/02	Peters et al.			
	AB												
	AC												
	AD												
	AE												
	AF												

FOREIGN PATENT DOCUMENTS

		Document Number							Date	Country	Class	Subclass	Translation	
													Yes	No
	AG													
	AH													

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	AI	Deppe et al, "Low-threshold vertical cavity surface emitting lasers based on oxide confinement and high contrast distributed Bragg reflectors," IEEE Journal of Selected Topics in Quantum Electronics, vol. 3, no. 3, pp. 893-904 (June 1997).
	AJ	Dutton, Understanding <i>Optical Communications</i> (Prentice Hall 1998), at pp. 159-161.
	AK	Jewell et. al., "Vertical cavity surface emitting lasers: design, growth, fabrication, characterization", IEEE Journal of Quantum Electronics, vol. 27, no. 6, pp. 1332-1346 (June 1991).
	AL	Nishiyama et. al., "Multi-oxide layer structure for single mode operation in vertical cavity surface emitting lasers," IEEE Photonics Technology Letters, vol. 12, no. 6, pp. 606-8 (June 2000).
	AM	Sale, T.E., <i>Vertical Cavity Surface Emitting Lasers</i> , Wiley & Sons (1995)

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Notice of References Cited

Application/Control No.

10/106,991

Applicant(s)/Patent Under Reexam

Zhu Zuhua et al

Examiner

Savitri Mulpuri

Art Unit

2812

Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number	Date	Name	Classification ²	
		Country Code-Number-Kind Code	MM-YYYY ¹			
x	A	6,565,811	10/2002	Peters et al	257	99
x	B	2002/0075922	6/2002	Yoo et al	372	45
x	C	2002/0025590	2/2002	Hall et al	438	29
x	D	5,416,044	5/1995	Chino et al	438	----
x	E	2002/0126725	9/2002	Tayebati	372	96
x	F	2002/0025589	2/2002	Hall et al	438	22
x	G	2002/0101894	8/2002	Colden et al	372	43
x	H	5,058,120	10/1991	Nitta et al	372	46
x	I	6,306,672	10/23/01	Kim	438	22
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number	Date	Country	Name	Classification ²	
		Country Code-Number-Kind Code	MM-YYYY ¹				
	N						
	O						
	P						
	Q						
	R						
	S						
	T						

NON-PATENT DOCUMENTS

*	Include, as applicable: Author, Title, Date, Publisher, Edition or Volume, Pertinent Pages					
	U					
	V					
	W					
	X					

¹ A copy of this reference is not being furnished with this Office action. See MPEP § 707.05(a).¹ Dates in MM-YYYY format are publication dates.² Classifications may be U.S. or foreign.